

**Listing of the Claims:**

1. (Withdrawn) A carrier for at least one specimen chamber for cryoconservation of biological specimens, comprising

a mounting frame for positioning the specimen chamber, wherein the mounting frame has a first frame part and a second frame part which can be joined together detachably using connecting elements and which come in contact on side faces of the frame parts in the assembled state,

wherein the specimen chamber can be secured between the side faces of the mounting frame, so that the specimen chamber is immovable relative to the mounting frame.

2. (Withdrawn) The carrier according to claim 1, wherein one of the side faces is flat and the other side face has a profiling so that receptacle elements are formed between the side faces, and the specimen chamber can be secured in these receptacle elements when the mounting frame is assembled.

3. (Withdrawn) The carrier according to claim 1, wherein both side faces have profiling so that receptacle elements are formed between the side faces and the specimen chamber can be secured in the receptacle elements when the mounting frame is in the assembled state.

4. (Withdrawn) The carrier according to claim 1, wherein the receptacle elements have an oval, triangular, rectangular or slotted cross section.

5. (Withdrawn) The carrier according to claim 1, wherein the connecting elements comprise fitting webs, grooves, pins, bushings, or combination thereof, on the side faces.

6. (Withdrawn) The carrier according to claim 5, wherein the webs, grooves, pins, bushings, or combination thereof, have latching profiles.

7. (Withdrawn) The carrier according to claim 1, wherein one of the frame parts has tension pins on its outside, each tension pin being aligned with respect to the receptacle elements so that stretching of the specimen chamber on the frame part is made possible.

8. (Withdrawn) The carrier according to 1, wherein the frame parts are pivotably joined together on one side.

9. (Withdrawn) The carrier according to claim 1, wherein each of the frame parts have outer frame elements which form a rectangular shape from the mounting frame.

10. (Withdrawn) The carrier according to claim 9, wherein the frame parts are equipped with inner frame elements which also form receptacle elements in the assembled state so that the specimen chamber can be secured in the receptacle elements.

11. (Withdrawn) The carrier according to claim 1, wherein each of the frame parts consist of frame elements which extend outward radially in a star shape.

12. (Withdrawn) The carrier according to claim 1, which is connected to a data memory device having at least one data memory.

13. (Withdrawn) A cryostorage device, comprising a carrier according to claim 1 and at least one specimen chamber of a flexible, elastically deformable material.

14. (Withdrawn) The cryostorage device according to claim 13, wherein the at least one specimen chamber is in the form of a hollow cylinder, a hollow cone, a pipe, a tube, a channel or a hollow needle.

15. (Currently amended) A method for storage of at least one suspension specimen in a low-temperature state in a carrier, comprising the steps of:

accommodating the at least one suspension specimen in at least one specimen chamber having a wall made of a flexible material that is elastically deformable at room temperature, the wall having a thickness,

positioning the specimen chamber on a side face of a first frame part of a mounting frame of the carrier after accommodating the at least one suspension specimen in the specimen chamber, the mounting frame comprising said first frame part and a separate second frame part, said second frame part having a side face disposed opposite the side face of said first frame part, at least one of said side faces of the first and second frame parts having receptacle elements formed thereon for accommodating at least a portion of the wall thickness of the specimen chamber, said frame parts being adapted for assembling together detachably using one or more connecting elements;

connecting the first and second frame parts into an assembled state wherein the side faces of the first and second frame parts come into contact with each other on side faces of the frame parts and with the specimen chamber, the specimen chamber being accommodated in the receptacle elements, wherein the specimen chamber is securely clamped by the first and second frame parts to pinch off the specimen chamber between the side faces of the first and second frame parts such that the specimen chamber ~~it is~~ immovable relative to the mounting frame, and

converting the suspension specimen to a low-temperature state by positioning the carrier with the specimen chamber in a cryomedium.

16. (Previously presented) The method according to claim 15, wherein each specimen chamber comprises at least one inlet end and one outlet end, and at least one suspension specimen is inserted into a corresponding specimen chamber by immersing the inlet end of the corresponding specimen chamber into a specimen reservoir and transferring the suspension specimen under the influence of a vacuum applied to the corresponding outlet end of the specimen chamber, or under the influence of capillary forces.

17. (Previously Presented) The method according to one of claims 15, wherein at least one partial specimen is detached from the at least one specimen chamber in the low-temperature state by mechanical separation.

18. (Previously presented) The method according to claim 17, wherein the mechanical separation comprises cutting off chamber sections of the specimen chamber adjacent to the frame parts of the carrier.

19. (Previously presented) The method according to claim 15, wherein each of the first and second frame parts has a circumferential shape.